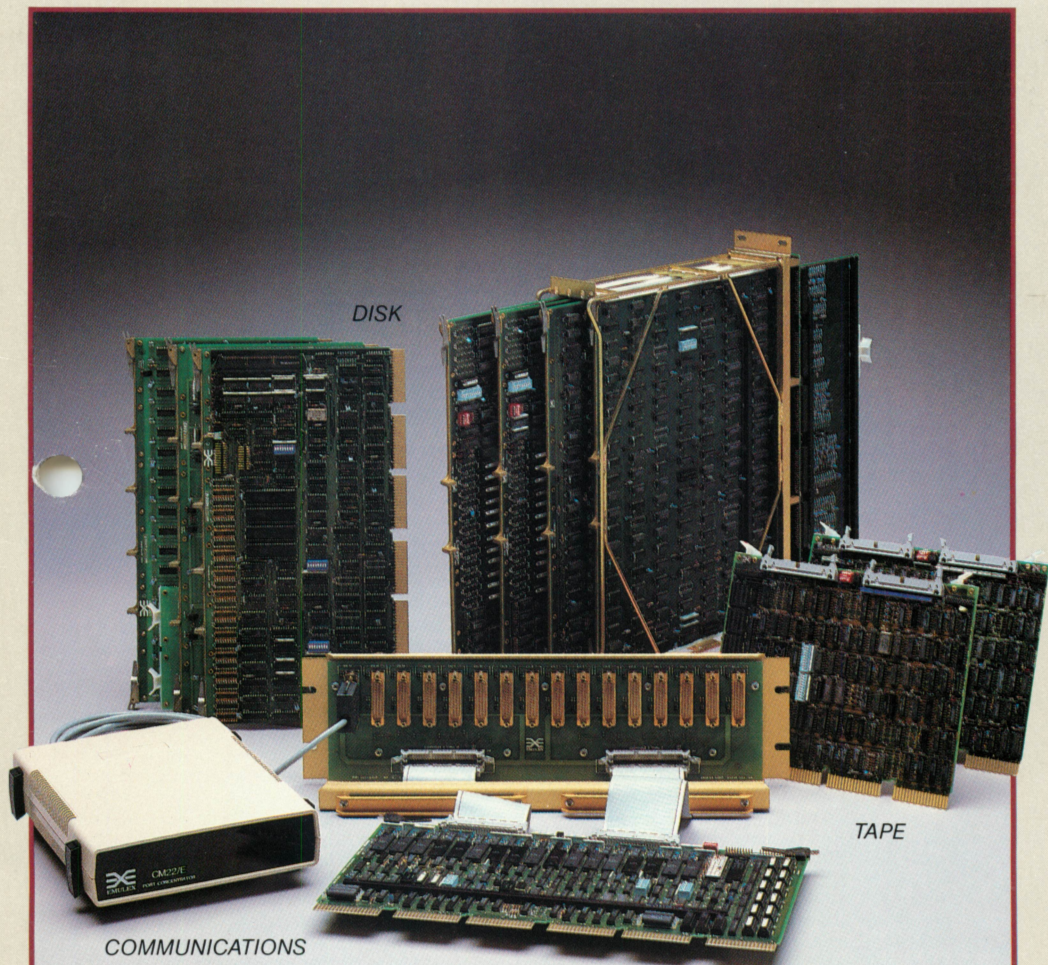




**THE GENUINE ALTERNATIVE
FOR CONTROLLER TECHNOLOGY**

**COMMUNICATIONS PRODUCTS
DISK CONTROLLERS
TAPE CONTROLLERS**



PRODUCT SUMMARY



Emulex Corporation's new 70,000 square foot corporate headquarters is located in Costa Mesa, California.

THE COMPANY

Emulex Corporation designs, manufactures and markets mass storage peripheral controller and communication products for use with mini-computers and microcomputers manufactured by Digital Equipment Corporation (DEC).

During its three year history, the Company has developed twenty-six distinct hardware product lines—described inside—which cover all models of the DEC LSI-11, PDP-11, and VAX-11* computers. As of January 1983, over 12,500 of these units have been delivered. This superb product line reflects the basic strength of EMULEX, namely its excellent technical group, which currently has more new products typical of those in our present product lines under development. We believe that these products will make the same dynamic contribution to the industry as have the current EMULEX products.

We intend to continue an aggressive development program and to maintain our position as a recognized technology leader. The engineering staff has been expanded in all areas to make certain that we meet this objective and we will continue this expansion effort for the foreseeable future.

CORPORATE ORGANIZATION

EMULEX was formed in September 1978. The

Corporation has experienced significant revenue growth since its inception. Current sales rates for fiscal year ending June, 1983 exceed \$30,000,000. The Company is publicly held with shares traded on the over-the-counter market under the NASDAQ symbol EMLX. For further information on these aspects of Emulex Corporation, please write the company at its Costa Mesa corporate headquarters and request the latest annual report.

FACILITIES

New corporate facilities located in Costa Mesa, California presently include over 70,000 square feet of modern, industrial buildings, with approximately 36,500 devoted to production and an additional 21,000 square feet dedicated to product development and technical support. Another 12,000 square foot production facility is located in Dorado, Puerto Rico. In addition, EMULEX has direct sales offices located across the U.S., with overseas offices in London, England, and The Netherlands.

MANUFACTURING

Manufacturing is dedicated to high-volume production of the Company's proprietary controller products. Production planning is oriented to a build-to and ship-from inventory. Quality control and testing procedures are stressed to assure a level of excellence to match that of the product designs.

Infant mortality failures are controlled by thorough pretesting and burn-in prior to shipment of a controller. All EMULEX controllers incorporate almost 100% active component parts. These parts are pretested and pre-aged for a period of 160 hours at 70°C prior to the time of assembly. Completed assemblies are further burned-in under dynamic microcode execution for a period of at least 96 hours in an environmental oven, which automatically cycles the temperature between 5–50°C. This testing occurs after parts have been thermal-shocked during the flow solder process. Any dynamic failure which occurs results in a microcode self-test failure. The defective component is then isolated and replaced and the assembly completes the cycling process.

As a result, MTBF (Mean-Time-Between-Failure) figures for EMULEX products are extremely favorable, with a range of 28,000 to 76,000 hours, depending on the product. Our CONTROLLER HANDBOOK gives complete details on specific MTBF and infant mortality rate figures for each EMULEX product.

* DEC, LSI, PDP VAX, Massbus, QBus, Unibus, CMI, and SMI are trademarks of Digital Equipment Corporation.

EMULEX SUBSYSTEMS GROUP

EMULEX offers complete peripheral disk and tape subsystems in addition to its basic stand-alone controller products to U.S. customers only. Housed in an adjacent facility, the Subsystems Group handles both the subsystem integration and installation of configurations for the VAX-11 and PDP-11 computer series. All peripherals and media are pretested and burned-in at EMULEX prior to delivery to the installation site. For information regarding the application/purchase of subsystems, contact the Emulex Subsystems Group, phone 714/662-5600.

SALES PROGRAMS

EMULEX products and subsystems are sold throughout the U.S. by a direct sales organization. Users may also purchase EMULEX products through a well-established Authorized Dealer, Sales Representative, and reseller organization, both domestically and in most countries throughout the free world.

Sales activities are supported by various special programs:

Under the EMULEX Exchange Program, end users of PDP-11/70 and VAX-11/750 and VAX-11/780 computers may qualify for exchange credits on an EMULEX, DEC or other third party disk controller which can be applied toward the purchase of a higher-performance EMULEX disk, tape or communications controller.

EMULEX has recently announced a formal Donation Program for the various American colleges and universities among its clients. According to this program, for every \$50,000 of EMULEX equipment shipped and invoiced to a participating institution during the current fiscal year, ending in June, 1983, EMULEX will donate approximately \$13,000 worth of products selected from its line of disk, tape, and communications controllers and communications multiplexers.

EMULEX now conveniently offers GSA Contracts to agencies of the U.S. Government (Contract Number GS-00C-03589).

In addition to these special programs, EMULEX offers financing through a Lease/Rental Program designed specifically for sophisticated computer users who need to expand the disk storage capacity of their systems without "red tape."

Details of these programs are available through your nearest EMULEX Sales Representative.

TECHNICAL SUPPORT

Competent, ready application support consultation is always available. EMULEX provides a dedicated technical support staff of senior hardware and soft-

ware engineers at its headquarters in Costa Mesa, California, and at its Eastern office in Nashua, New Hampshire. The staff is available to all users for any required telephone assistance.

System support specialists are located in EMULEX field service offices in New York, Boston, Philadelphia, Chicago, Atlanta and Los Angeles. These specialists are dedicated to the on site installation and support of EMULEX products in these key geographical areas. Additional field service offices are planned in other major metropolitan areas in the near future. It is the policy of the Company to provide the full level of such assistance required to properly integrate and use all EMULEX products.

The Company conducts regularly-scheduled, customer and service courses at its facilities on an approximately monthly basis. Specialized courses at customer locations are provided by arrangement.

PRODUCT REPAIR

EMULEX maintains a dedicated, well staffed and equipped repair facility at its headquarters. It is policy to promptly honor all requests for in-or-out-of-warranty product repair regardless of purchase source. Requests for both routine and expedited support should be directed to the Repair Center.

For U.S. customers, a unique end-user swap-out policy is available to EMULEX subsystem customers, whereby a replacement product will be shipped to the customer's site within 24 hours after a request is made.

FIELD SERVICE

EMULEX has a formal service agreement with Control Data Corporation/Engineering Services Division for maintenance of its complete controller and subsystem product line. This program now covers 50 key U.S. cities, with plans for expansion in other locations. In each location, Control Data offers complete DEC system maintenance of LSI-11 and PDP-11 based systems as well as maintenance for EMULEX products, thus providing a single vendor service arrangement. In addition, subsystem maintenance of EMULEX products, including VAX subsystems, is also offered in the U.S. cities and in the countries of Canada, United Kingdom and Germany. For information, contact EMULEX directly or Control Data at 800/328-3980.

A similar arrangement has been implemented with General Electric in key cities across the U.S. Information on this program is available from EMULEX. Other excellent organizations, such as Tymshare and Grumman furnish maintenance on a regional or national basis.

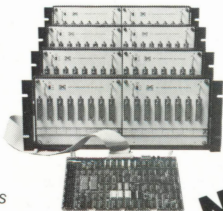
COMMUNICATIONS MULTIPLEXERS FROM EMULEX

Now you can improve your communication with DEC using communications multiplexers from EMULEX. You might say we're doing for communications controllers what we've already done for tape and disk controllers. By applying the latest microprocessor technology and some sexy design, we give our customers the performance and reliability they expect—and get—from EMULEX.

EMULEX now offers the CS01, CS11 and CS21 Series which give you a complete range of prices and options to solve your communication multiplexing needs. EMULEX offers DZ11, DH11, DV11 and now DMF32 compatible multiplexers that duplicate all of the DEC features and go beyond, delivering improved line handling capabilities in a far smaller package and at significantly lower cost.

CS01 SERIES

Incredible as it sounds, you now have DH11 capability on the QBus! The same EMULEX system concept used for our VAX/PDP-11 product line enables you to handle from 8-64 channels on your LSI-11. And you get the same long list of features and benefits found in the EMULEX CS11 Series—19.2 K baud per line, 128 character FIFO for each group of 16 received data lines, full 16-bit word transfers on DMA operation, and more.

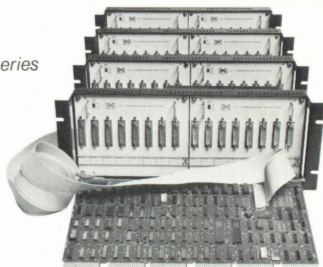


CS01 Series

MODEL CS01/H COMMUNICATIONS MULTIPLEXER FOR DEC'S LSI-11

The CS01/H is the only high-performance multiplexer available for the LSI-11 QBus. Replace those cycle-stealing, interrupt-driven DLV11's and DZV11's that eat up precious bus bandwidth! Just one quad-size board, occupying a single QBus slot, handles from 8-64 asynchronous lines. Various types of line adapters—including RS-232 with full DM11 compatible modem control—are included and may be mixed in 8-line groups. And users may opt for a full 22-bit hardware address to handle the 4 MByte memory addressing capacity of the LSI-11/23 PLUS!

CS11 Series



CS11 SERIES

The EMULEX CS11 Series organization represents a new, unique concept in communications multiplexers. A configured system consists of a set of building blocks, including a host-mounted controller and external modular line adapter panels. Common hardware is used to implement all models of the product line. The CS11 is ideal for applications involving large numbers of terminals—typically 32 or more—and/or where power and backplane board space is at a premium. Mix/match modular adapter panels on an 8-line basis. Users of large numbers of terminals and/or those with changing requirements should, therefore, find the CS11 Series an ideal choice for the present with open-end flexibility for the future.

MODEL CS11/F COMMUNICATIONS MULTIPLEXER FOR DEC'S VAX-11

Here's the EMULEX answer to adding software and diagnostic transparent communication to your VAX-11 CPU (VMS Version 3.0 and above). Our CS11/F is a DMF-32 replacement and a whole lot more. A single hex-size CC11/F controller board handles up to 48 lines, the equivalent of 6 DEC DMF-32 modules. And with the EMULEX CS11/F you get 8 lines with modem control per emulation, not two. Save those valuable SPC slots while increasing your remote communications capabilities.

And more good news! Your existing CS11 can be upgraded with a simple PROM set change for only \$350. You're never out-of-date with an EMULEX product!

MODEL CS11/H COMMUNICATIONS MULTIPLEXER FOR DEC'S PDP-11

Just one hex-size board, occupying a single Unibus slot, handles from 8 to 64 asynchronous lines. Naturally, we're fully transparent and run existing DEC diagnostics. You get everything included in the original DH-11 but we've added many extras, like peak rates to 19.2 K baud per line, "double fifo" capacity of 128 characters per 16 lines and full 16-bit word transfers on DMA operation. And, of course, our system's microprocessor has extensive built-in controller and channel self-test diagnostics and fault indicators.

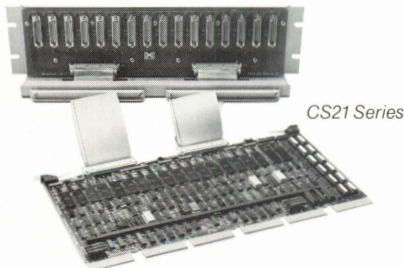
NEW!!!

MODEL CS11/U COMMUNICATIONS MULTIPLEXER FOR DEC'S VAX-11

Finally VAX-11 users can get the high performance capability really needed for effectively handling front-end communications. Hardware consists of the same controller (with enhanced microcode) and line adapters now in widespread use on all models of the PDP-11 Series. This hardware is combined with the EMULEX VAX/UH software package, consisting of a driver plus diagnostics, to offer substantial performance improvement and significant backplane mounting space reduction over the customary DZ11 complement provided by the manufacturer. Like the CS11/H, one hex-sized board handles 8 to 64 asynchronous lines. And all this at about the same cost per line as a large DZ11-equipped system.

MODEL CS11/V COMMUNICATIONS MULTIPLEXER FOR DEC'S PDP-11 UNIBUS

Now, using a single hex-size board, you can handle 8 to 32 synchronous and asynchronous lines, if you like, in groups of eight. All features found in the DEC DV-11 are included in the EMULEX CS11/V. And the CS11/V also has the same long list of high performance extras contained in the EMULEX CS11/H. In addition, the CS11/V features a flexible design which enables you to handle special characters and protocols with checking done through programmable block checks and sync characters.



CS21 SERIES

The CS21 Series organization represents a simple, economical, effective approach for handling asynchronous communications multiplexing. A configured system consists of a single host-mounted controller board plus a single, passive 16-line distribution panel. This common hardware is used to implement all models of the product line. The CS21 Series is ideal for applications involving smaller numbers of terminals—typically 32 or less—where backplane board space and power are not critical, and where the line adapter flexibility of the CS11 Series is not required.

MODEL CS21/F COMMUNICATIONS MULTIPLEXER FOR DEC'S VAX-11

For applications involving 16 or fewer terminals on your VAX-11 CPU, the CS21/F gives you DMF-32 performance at an economical EMULEX price. The CS21/F gives you software and diagnostic transparent communication (VMS Version 3.0 and above), and 8 lines with modem control per emulation, not two. Save an SPC slot, have the remotes you need and, at the same time, take advantage of the dramatically improved performance of the DMF-32 VMS terminal handler.

And for those of you who already have a CS21, you can upgrade to DMF-32 capability with a simple PROM set change for only \$350. You're never out-of-date with an EMULEX product!

MODEL CS21/H COMMUNICATIONS MULTIPLEXER FOR DEC'S PDP-11

Here is the ideal communications multiplexer for small-to-medium terminal system configurations on DEC PDP-11 CPU's. The CS21/H handles 16 asynchronous lines at rates up to 19.2 Kbaud. The CS21/H improves system performance, uses less power, and costs no more than those cycle-stealing DZ11's you've been forced to use up to now. And, for the first time you can have DH11 performance at the identical DZ11 price! A PROM change converts the CS21 to any available model.

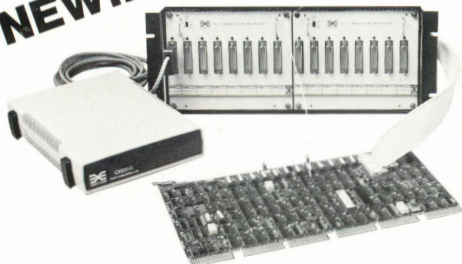
MODEL CS21/U COMMUNICATIONS MULTIPLEXER FOR DEC'S VAX-11

The CS21/U subsystem brings to the VAX-11 Series the kind of communication I/O performance needed to match the inherent CPU capability. Test data shows that by replacing cycle-stealing, interrupt-driven DZ11's with the CS21/U, I/O terminal handling capacity can generally be significantly increased. At the same time, the CS21/U saves one valuable internal SPC slot for every DEC DZ11E it replaces. The CS21/U uses the CS21 hardware combined with enhanced microcode and the EMULEX VMS/UH software package, consisting of a driver plus diagnostics supported internally by EMULEX under VMS Version 2.0 and above.

MODEL CS21/Z COMMUNICATIONS MULTIPLEXER FOR DEC'S PDP-11 AND VAX-11

This is the EMULEX answer to DZ11 replacement. With our CS21/Z, we offer a single hex-size pcb per 16 lines to take the place of DEC's two-board DZ11E. It makes little sense to use even our CS21/Z on your PDP-11, however, because our CS21/H (DH11) gives you so much more in performance for an identical price. But for VAX-11 users who wish complete DEC software transparency and a lower price, the CS21/Z is your choice.

NEW!!!



STATCON SERIES 11

Are your communication costs out of sight? Excessive leased-line rentals? Escalating long-distance dial charges? Cumbersome, expensive hardware to handle growing numbers of local and remote terminals?

Enter EMULEX. With our newest STATCON SERIES 11, PDP-11 and VAX-11 users get the port-savings advantages of local multiplexing with the line-saving economy and error-free performance of remote concentration. The STATCON SERIES 11 utilizes the field proven CS11 Communications Multiplexer and one or more CM22/EX local statistical port concentrators. The STATCON 11 handles up to 64 local and/or remote lines using a single SPC slot of your VAX-11 or PDP-11 CPU. It is ideal for applications involving large numbers of terminals—typically 32 or more, where backplane space and/or power are at a premium. Eliminates expensive custom software. On top of this, reduce other hardware costs tremendously—lines and modems reduced by a factor of eight or more, no expansion chassis required, no more spaghetti cabling for remote channels.

The STATCON SERIES 11 handles all aspects of multiplexing, demultiplexing, error handling, link initialization and synchronization, and remote concentrator configuration. All this transparent to the DEC system's existing operating software, of course.

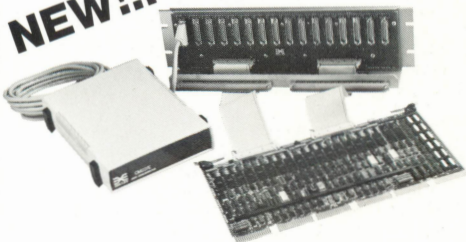
Emulate DEC's DH11 on your VAX or PDP-11 with one of the following models of the STATCON SERIES 11:

CSM11/MH—gives full DH11 performance on the PDP-11, transparent to DEC operating system and diagnostics.

CSM11/MU—provides full DH11 performance on the VAX-11, using the EMULEX developed and supported VMS/UH software package.

The STATCON SERIES 11 includes all the EMULEX extras that insure superb performance—peak rates to 19.2 Kbaud, "double FIFO" capacity of 128 characters per 16 lines, and full 16-bit word transfers on DMA operation.

NEW!!!



STATCON SERIES 21

VAX-11 and PDP-11 users rejoice! EMULEX has combined both standard host computer multiplexing and remote statistical port concentration capabilities into one neat package. With the STATCON SERIES 21, it's now possible to satisfy those ticklish communications applications that once required separate hardware and software. And at a fraction of the cost!

The STATCON SERIES 21 combines the proven CS21 Communications Multiplexer with special microprogramming (together called the CSM 21/MX) and the CM22/EX local statistical port concentrator. It handles all aspects of multiplexing, demultiplexing, error handling, link initialization and synchronization, and remote concentrator configuration to funnel remotely concentrated data into a single computer RS-232 port. All this in a manner that is completely transparent to the DEC system's existing operating software. Up to 32 local and/or remote lines may be connected to any DEC PDP-11 or VAX-11 computer system using a single backplane slot. A lot less hardware (save SPC slots, save on the use of modems, reduced telephone line costs), less power, and speeds to 19.2 Kbaud!

The EMULEX STATCON SERIES 21 is available in three versions to emulate either DH11 or DZ11-E on your VAX or PDP-11:

CSM21/MH—gives full DH11 performance on the PDP-11, DEC operating system and diagnostic transparency, of course.

CSM21/MU—provides full DH11 performance on the VAX-11, using the EMULEX developed and supported VMS/UH software package.

CSM21/MZ—supports full DZ11-E emulation, transparent to DEC diagnostic and operating system software on both the PDP-11 and VAX.

Each model includes the usual long list of extras you've come to expect from EMULEX—DMA transmit operation, programmable receive FIFO, line format and speed flexibility, and more.

DISK CONTROLLERS FROM EMULEX

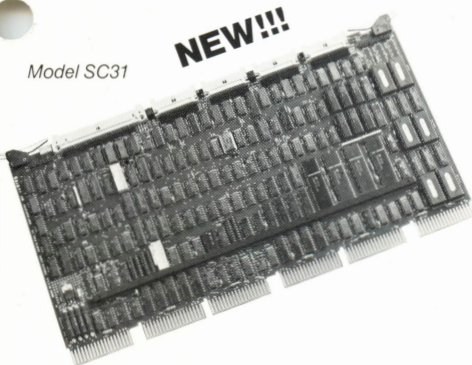
Ask your disk drive supplier about EMULEX controllers. Chances are he'll tell you that no controller makes DEC system integration easier or more reliable.

We support Storage Module Drive (SMD) ANSI, and SCSI interfaces and both 8" and 14" Winchester class disk drives from every major manufacturer, including Ampex, BASF, Century Data, Control Data, Fujitsu, Iomega, Kennedy, Memorex, and Priam for use with all LSI-11, PDP-11, PDP-11/70, and VAX-11 CPU's.

So you can put together any combination you need with our fully imbedded, software transparent, microprogrammed controllers.

The many outstanding individual features of each of our disk controller designs are discussed below. In all cases, however, each hardware model is designed specifically — and exclusively — for an intended DEC host computer. The mechanical and electrical design is optimized for that application, not simply "adapted" as some other competing designs.

Model SC31



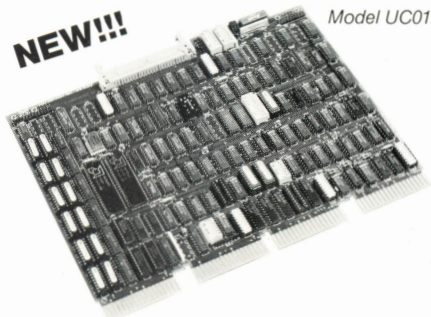
MODEL SC31 LARGE DISK CONTROLLER FOR DEC'S PDP-11 AND VAX-11/730 SERIES UNIBUS

Handle those speedy, new, high-density disk drives — like the Fujitsu "Eagle" — with ease!

PDP-11 and VAX-11/730 users have a lot going for them with the latest EMULEX achievement. The SC31 is optimum for use with the 1.8 MByte/second transfer rates of those high-speed Winchesters you've been coveting. It gives you the same performance and all the features of our large VAX controllers.

And all this through a single "Universal" emulation on a single hex board that takes up minimum space and uses less power.

On PDP-11 CPU's, emulate DEC's RM02/RM03/RM05/RM80 or dual RP06. All DEC PDP-11 diagnostic and operating system compatible. For VAX-11/730 applications, the SC31 consists of a hardware/software package which emulates RM02/RM03/RM05/RM80 or expanded RM80 logical units. The total package provides complete capability to install and operate large capacity disk drives on a VAX-11/730 Unibus. It gives you the same — or even greater — storage capability of typical DEC Massbus installations at a fraction of the cost.



MODEL UC01 SCSI EMULATING HOST ADAPTER FOR DEC'S LSI-11 SERIES QBUS

Introducing the EMULEX answer to interfacing the SCSI (Small Computer System Interface) specification. And a lot of you have been asking for it. ▶

The UC01 was designed to interface the small computer system interface (SCSI), which meets the ANSI X3T9.2 specification, to the DEC LSI-11 computer. The UC01 emulates the RLV12 controller combined with multiple RL01 and RL02 disk drives to allow disk controllers to communicate via the SCSI Bus. As you might expect, operation of the UC01 is transparent to applicable DEC diagnostics and operating systems.

A significant feature of the UC01 is its support of 22-bit addressing, which provides full 4 MByte memory capacity to your DEC LSI-11/23. The UC01 has an additional unique feature of emulating two controller register sets on a single quad-size board. The present configuration supports 4 RL01/RL02 drives on the second set in the range of 5.2 to 83.2 MBytes. This feature saves you the expense of an additional host adapter and requires about half the power of the equivalent DEC controller. For added economy, built-in clock control and optional 512 word bootstrap and bus terminators allow you to eliminate a separate board (such as a BDV11) from the system.

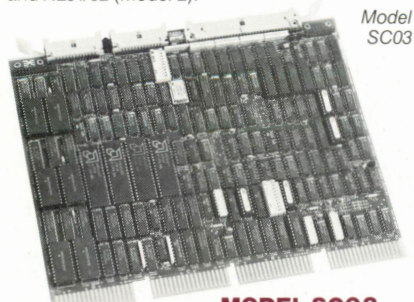


Model SC02



**MODEL SC02
SMALL/MEDIUM DISK CONTROLLER
FOR DEC'S LSI-11 SERIES QBUS**

The SC02 is designed to match the packaging and economy of today's new breed of small and medium capacity 8" and 14" hard disk drives. It provides the high performance and flexibility demanded for their effective application with the LSI-11. Other features include full 22-bit addressing, mixed drive capability, a bootstrap/terminator option, and BDV-11 clock control. And it has the usual EMULEX quality the industry has come to depend on. The SC02 enables you to integrate one or two SMD or Winchester disks, from 12 to 160 MB, with LSI-11, 11/2 and 11/23 microcomputers. Contained on a single quad-size pcb, the SC02 is offered in three versions all transparent to diagnostic and operating software: RP11/RP02/RP03 (Model A); RK611/RK06/RK07 (Model C); and RL01/02 (Model L).



Model SC03

**MODEL SC03
LARGE DISK CONTROLLER FOR
DEC'S LSI-11 SERIES QBUS**

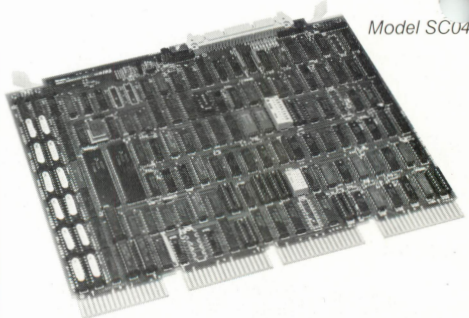
You've heard it from us before. "A company that redesigns its bestseller ought to be committed." Well, we've done it again!

Introducing the new EMULEX SC03, the large disk controller so powerful and versatile you're likely to question our sanity. You see, we've designed it to directly compete with the industry's leading large disk controller for LSI-11 users.

Unlike the leader, it is packaged on one quad-sized board, requiring only one backplane slot. Not two. And it delivers more features, flexibility, and system-boosting performance than the leader. For less money.

The catch, of course, is that the leader is us. The SC03 is an upgrade of our own SC01, the first product of its kind and a bestseller ever since.

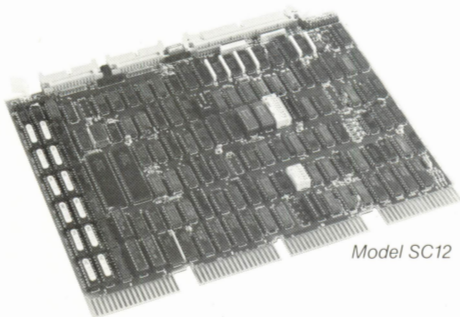
We've designed the SC03 to handle the new 1.8 MByte/second drives — like the Fujitsu "Eagle" — now. Also we've included 22-bit addressing, mixed drive capability, a bootstrap/terminator option, and BDV-11 clock control in addition to all the features already found on our SC01 disk controller. The SC03 is available in two versions emulating DEC's RH11/RM02/RM05 and RP06. And we have more good news — you can use these big drives and get the full 4MByte (22-bit) memory addressing capability under RSX11 and RSTS. Call us to find out how.



Model SC04

**MODEL SC04 ANSI
SMALL/MEDIUM DISK
CONTROLLER FOR DEC'S LSI-11
SERIES QBUS**

EMULEX now has you covered in the ANSI arena with the SC04. The SC04 was designed specifically and exclusively to integrate small-to-medium capacity 8" Winchester disk drives from 20 to 160 MB with the LSI-11. Up to eight drives having the ANSI X3T9.3 interface may be daisy-chained on one quad-sized pcb. It has all the same features, benefits and packaging of the SC02. We offer software transparent emulation of the DEC RK06/07 (Model C) and RL01/02 (Model L).

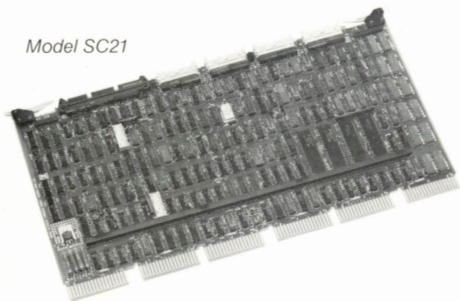


Model SC12

MODEL SC12 SMALL/MEDIUM DISK CONTROLLER FOR DEC'S PDP-11 AND VAX-11 UNIBUS

Here is the economical EMULEX alternative to integrating small-to-medium capacity moving head disk drives with the VAX or PDP-11. Incorporating a standard SMD interface, it is optimum for 14 inch drives up to 80 MB (including CMD type drives) and for all current 8" drives which offer an SMD interface option. The unit is an excellent complementary product to the EMULEX SC02 controller for the LSI-11 QBus. Housed on a single quad-sized pcb, SC12 handles up to two drives per controller and is offered in three versions each transparent to diagnostic and operating software: RP11/RP02/RP03 (Model A), RK611/RK06/RK07 (Model C), and RL01/02 (Model L).

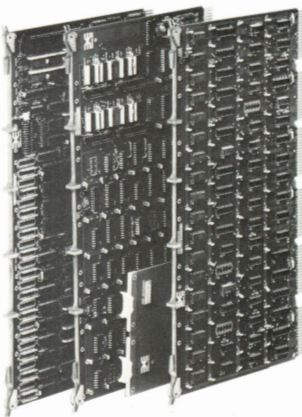
Model SC21



MODEL SC21 LARGE DISK CONTROLLER FOR DEC'S PDP-11 AND VAX-11 UNIBUS

The SC21 is the undisputed industry leader in large disk controller sales. The SC21 has all the

features needed for superb performance. Included: mixed drive capacity on the same controller, adaptive DMA throttle, outstanding bus efficiency and low power. The SC21 enables you to integrate one to four SMD (or Winchester disk) drives, from 80 to 600 MB, with all PDP-11/04-11/60, and VAX CPU's. The SC21 is offered in two basic models each transparent to diagnostic and operating software: RH11/RM02/RM05/RP06 (Model B), and RM03/RM05 (Model V) for specific use on the VAX-11/750 and 11/780 Unibus. Together, the SC12 and SC21 solve your complete Unibus disk controller storage needs at very competitive prices.

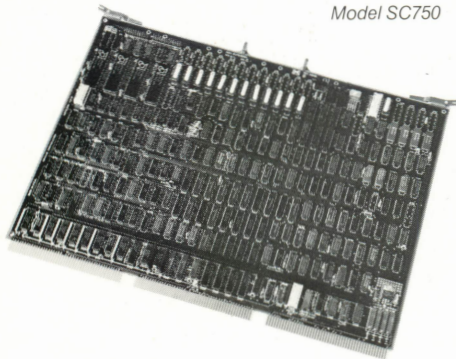


Model SC71

MODEL SC71 LARGE DISK CONTROLLER FOR DEC'S PDP-11/70 CACHE BUS

This is the EMULEX controller that makes it simple and economical to climb aboard DEC's Cache bus for maximum performance and complete software transparency. The SC71 enables you to integrate from one to four SMD or Winchester disk drives, from 80 to 600 MB, with PDP-11/70 CPU's. It also allows mixed drive selection on the same controller. Currently, we offer the SC71 in two versions: RH70/RM03/RM05 or RP06. Both, of course, are fully transparent to diagnostic and operating software and include the same long list of features as other big disk controllers in the family. We've packaged the controller on four independent boards which mount directly into the four standard RH70 interface slot areas.

Model SC750



MODEL SC750 LARGE DISK CONTROLLER FOR DEC'S VAX-11/750 CMI

EMULEX has done it! VAX-11/750 users can now get maximum performance and total software and diagnostic transparency with our SC750 Series disk controller. Using a single "extended" hex-size pcb that connects to any RH750 Massbus interface slot of the CMI and a special cable adapter board that mounts to the backplane, users can interface up to four physical (or eight logical) SMD drives per controller. The SC750 includes the usual long list of outstanding EMULEX features — self-test, error correction (ECC), dual port capability, mixed drive capacity and more. Plus — it handles data rates up to 15 MHz, rates demanded by new high-density disk drives. And explicit seek commands will initiate true overlapped seeks on multiple disk drives. The EMULEX SC750 is offered in a single version that emulates RM03/RM05 and RM80 subsystems.

After shipping about 300 units, we're still waiting for our first field failure!

EMULEX V-MASTER/780 MASS STORAGE ADAPTER FOR DEC'S VAX-11/780 SBI

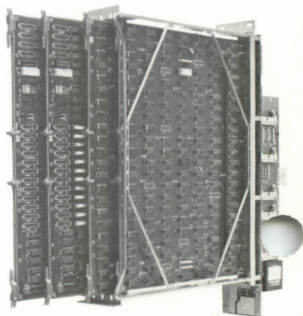
Ready for a fresh, clean, new approach to adding mass storage to your VAX-11/780? The EMULEX V-MASTER/780 is a complete mass storage concept and product line which gives you optimum performance, maximum flexibility, low cost, high reliability, neat packaging and economical maintenance. All this, using less space and power than any other set of alternatives.

The V-MASTER/780 consists of a compact System Chassis which houses pcb's containing basic interface circuitry to the internal, high-speed Synchronous Backplane Interconnect (SBI). So now VAX-11/780 users can enjoy maximum performance plus software and diagnostic transparency.

Within the V-MASTER/780 System Chassis either one or two separate, independent Massbus-compatible peripheral controllers can be installed. The V-MASTER/780 chassis is embedded in the host VAX-11/780 cabinet using mounting space allocated for standard DEC RH780 Massbus Adapters (MBAs) or the SBI but terminator, and power from internal sources.

NEW!!!

EMULEX
V-MASTER/780



Controllers which may be added to the V-MASTER/780 include the EMULEX disk and tape controller boards designed for the VAX-11/750 computer (with different microcode PROM's). The disk controller board — designated the SC780 — provides users with maximum performance, software transparency, and the option of selecting from the many excellent, cost-effective SMD class disk products — 80 to 675 MBytes — available from independent peripheral manufacturers. Users can interface up to four physical (or eight logical) SMD drives per controller. The SC780 is available in two models which emulate RM03, RM05, and/or RM80, (SC780/B1) or RP06 (SC780/B2) Massbus disk subsystem.

A forthcoming tape controller board — designated the TC780 — will provide users full Massbus level tape subsystem performance, hardware/software transparency, and the option of selecting from existing and future industry-standard half-inch transports — including conventional start-stop and streaming types at densities of 800, 1600, 3200 and/or 6250 bpi. Either or both of these controllers may be incorporated into a single V-MASTER/780 to provide a complete mass storage control module in a single, fully-embedded package.

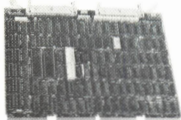
TAPE COUPLERS FROM EMULEX

NEW!!!

EMULEX can provide TS11 diagnostic/software transparency and standard operating system support across the LSI-11, PDP-11 and VAX-11 CPU lines. Our universal tape couplers handle every industry standard ("Pertec") half-inch tape transport, including conventional NRZ/PE start/stop and the 1600/3200 bpi start/stop/streaming tape drives such as those made by Cipher, CDC, Kennedy, Pertec, and Ampex. The TC02 and TC12 will also interface the new breed of low cost GCR (6250 bpi) start/stop/streaming transports.

For streaming back-up of Winchester disks, on the LSI-11 and PDP-11 series computers, a stand-alone disk/tape back-up program is provided — written and supported by EMULEX. On the VAX-11 series under VMS, the standard on-line backup utility (BACKUP) can be used with the TC12 to support streaming tape backup operations.

Model TC02



MODEL TC02 TAPE COUPLER FOR DEC'S LSI-11 SERIES QBUS

The EMULEX TC02 enables you to integrate one to four "Pertec" standard half inch tape transports at speeds from 12.5 to 125 ips. In addition, the TC02 has full 22-bit QBus address hardware to utilize the full 4 MByte memory capacity of the LSI-11/23 PLUS. It is currently available in two versions each transparent to DEC diagnostic and operating software: Model TC02/F for formatted start/stop drives and TC02/S for streaming drives.

Model TC12



MODEL TC12 TAPE COUPLER FOR DEC'S PDP-11 AND VAX-11 SERIES UNIBUS

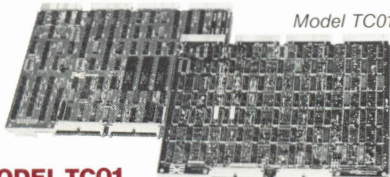
The TC12 coupler, combined with one to four standard formatted tape drives, emulates all functions of the DEC TS11 subsystem, including execution of standard diagnostic programs. It operates at all tape speeds from 12.5 to 125 ips. In addition, the TC12 offers extra tape selection flexibility and either DEC or IBM 9-channel formatting. Current versions include the TC12/F for formatted start/stop drives and the TC12/S for streaming drives.

TAPE CONTROLLERS FROM EMULEX

No matter which DEC CPU you're using — or which tape transport you prefer — our tape controllers slide directly into your standard CPU backplane or system unit without modifications. And because EMULEX controllers are fully hardware and software (including diagnostics) transparent, they're immune to system revisions.

We support the complete line of LSI-11, PDP-11 and VAX-11 CPU's with controllers that make it easy to use just about any industry-standard tape transport you choose, including those made by Ampex, Cipher, Control Data, Datum, Innovative Data (Tandberg), Kennedy and Pertec.

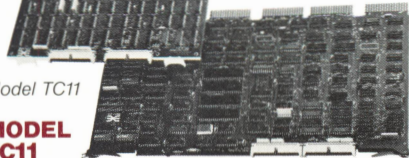
Model TC01



MODEL TC01 TAPE CONTROLLER FOR DEC'S LSI-11 SERIES QBUS

This is the industry's first fully imbedded dual density controller for use with LSI-11, 11/2 and 11/23 CPU's. It enables you to integrate one to four NRZ/PE reel-to-reel magnetic tape transports, at all speeds from 12.5 to 75 ips. The TC01 emulates DEC's TM11/TU10 tape subsystem and is transparent to diagnostic and operating software. We package our TC01 on just two quad-size boards that mount in any two available QBus slots.

Model TC11



MODEL TC11 TAPE CONTROLLER FOR DEC'S PDP-11 AND VAX-11 SERIES UNIBUS

This is the proven dual-density controller that puts virtually any tape transport on the PDP-11 or VAX-11 Unibus. It enables you to integrate one to four tape transports, in either NRZ or PE format. It operates at all speeds from 12.5 to 125 ips, with all PDP-11/04-11/70 and VAX-11 CPU's. The TC11 controller is packaged on one quad- and one hex-size board that mounts in any two available standard SPC slots.



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NEED MORE DETAILS?

If so, ask for our latest CONTROLLER HANDBOOK. It's got everything you need to solve your problems. It talks about our Company and its services, and it even gives you reliability data on the products you have seen in this PRODUCT SUMMARY. Finally, it contains a lot of useful data and tutorial on DEC products (like, "What is a Massbus?") that you might find interesting and even useful.